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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,665	03/30/2004	Peter W. Estelle	NOR-978B	3559

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WOOD, HERRON & EVANS, LLP (NORDSON)
2700 CAREW TOWER
441 VINE STREET
CINCINNATI, OH 45202

EXAMINER

KOCH, GEORGE R

ART UNIT PAPER NUMBER

1734

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/812,665

Applicant(s)

ESTELLE, PETER W.

Examiner

George R. Koch III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 4-12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-3 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Popp (US Patent 5,683,752) in view of Medler (US Patent 4,957,782) and Matt (US Patent 4,500,937).

Popp discloses a method of monitoring an operation of a dispensing gun (items 50) dispensing a pattern of fluid onto a substrate moving with respect to the dispensing gun, the dispensing gun turning ON and OFF in response to transition signals (the signals along the control pathway between item 140 and 50) and a sensor (item 152) providing feedback signals (to control 138) representing detected edges of fluid dispensed onto the substrate by an operation of the fluid dispensing gun. Popp also discloses that the system uses the detected edges of fluid to create a correction signal (see column 6, lines 55-60) which adjusts the delays in the transition of the gun.

Popp does not suggest measuring delays between occurrences of the transition signals, or even measuring the transition signals.

Medler discloses measuring the transition signals with a sensor (item 1), and using those signals to correct the operation of the transition signals, but is silent as to how the switching times are corrected. Matt discloses a method of monitoring an operation of a dispensing gun (item 210) dispensing a pattern of glue (length Z - see

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column 2, lines 54-55) onto a substrate moving (along conveyor 200) with respect to the dispensing gun, the dispensing gun turning ON and OFF in response to transition signals (the signals from the item labeled "DRIVER"), wherein the gun operation is monitored by measuring delays between the occurrences of the transition signals (Figure 5, line A) and compared with the signals representing the detection or actual presence of the edges of the fluid (see Figure 5, line C). One in the art would immediately appreciate that utilizing these two signals allows for proper calculation of the needed compensations, (as represented by lines D, E, and F of Figure 5). Furthermore, Matt discloses that proper operation of the compensation results in the dispenser depositing a bead of fluid commencing at a preselected position for a preselected duration (column 1, lines 6-10), i.e., results in accurate dispensing. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the step of measuring the delays between the occurrences of the transition signals, by measuring the transitions as in Medler, and correlating that data with the detecting of the corresponding edges of the fluid resulting from the transition signals, as in Matt, in order to achieve accurate dispensing.

As to claim 2, Medler as incorporated discloses detecting occurrences of transition signals commanding the gun to turn ON and OFF (via sensor 1, and see Figure 1). Popp, Medler, and Matt all disclose that the gun turns "ON" and "OFF" in response to their respective transition signals. Popp discloses detecting edges of the fluid dispensed onto the substrate (via item 152), and this dispensing was in response to the dispensing gun being turned ON and OFF.

As to claim 3, Matt as incorporated discloses a delay duration control element and a compensator control element (items 212 and 214). The output of the delay duration calculation step is the output related to the delays.

As to claim 13, Popp discloses a method of monitoring an operation of a dispensing gun dispensing an adhesive pattern onto a substrate moving with respect to the dispensing gun, the method comprising 1) providing gun ON and OFF signals (the signals along the pathway defined between elements 140 and 50, through items 142 and 58) representing times at which the dispensing gun should open and close, respectively, 2) opening and closing the dispensing gun in response to the gun ON and OFF signals (i.e., the operation of the gun), respectively, and 3) providing feedback signals (from camera 152) representing edges of the adhesive dispensed onto the substrate resulting from the opening and closing of the dispensing gun.

Popp does not disclose determining delays between occurrences of the gun ON and OFF signals and corresponding edges of the adhesive resulting from the gun ON and OFF signals.

Medler discloses measuring the transition signals with a sensor (item 1), and using those signals to correct the operation of the transition signals, but is silent as to how the switching times are corrected. Matt discloses a method of monitoring an operation of a dispensing gun (item 210) dispensing a pattern of glue (length Z - see column 2, lines 54-55) onto a substrate moving (along conveyor 200) with respect to the dispensing gun, the dispensing gun turning ON and OFF in response to transition signals (the signals from the item labeled "DRIVER"), wherein the gun operation is

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monitored by measuring delays between the occurrences of the transition signals which represent the gun ON and OFF signals (Figure 5, line A) and compared with the signals representing the detection or actual presence of the edges of the fluid (see Figure 5, line C). One in the art would immediately appreciate that utilizing these two signals allows for proper calculation of the needed compensations, (as represented by lines D, E, and F of Figure 5). Furthermore, Matt discloses that proper operation of the compensation results in the dispenser depositing a bead of fluid commencing at a preselected position for a preselected duration (column 1, lines 6-10), i.e., results in accurate dispensing. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the step of measuring the delays between the occurrences of the transition signals, by measuring the transitions as in Medler, and correlating that data with the detecting of the corresponding edges of the fluid resulting from the transition signals, as in Matt, in order to achieve accurate dispensing.

As to claims 15, Medler as incorporated discloses using the signals from the gun activation element, i.e., the gun driver - defined by line FN in figure 1 and equivalent to the output of solenoid 58 in Popp, as the signal for which compensation is effected against.

As to claim 14, none of the references disclose using the signals from the pattern controller. Popp does disclose a pattern controller (limit switch 142, which creates the signals to the solenoids 58 which create the patterns of Figures 7-9, for example). One in the art would immediately recognize that the signals of the limit switch are identical to

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the signals of the solenoids, except for the delay from the solenoid activation, and one in the art can select either as a design choice. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized such the signal from the pattern controller in replacement for the solenoid signal as both are equivalent signals in Popp.

Response to Arguments

3. Applicant's arguments filed 12/09/2004 have been fully considered but they are not persuasive.

4. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the operations occur within one dispensing cycle, as referenced multiple times, such as page 6, final sentence of the middle paragraph discussing Matt, and page 7, final sentence of the 3 paragraph discussing Medler) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

5. Furthermore, the applicant appears to mischaracterize the dependent reference of Matt (US 4,500,937). Applicant alleges, in page 6 of 9 on the response submitted 12/09/2004, that "the pull-in and drop-out compensations within the compensator module 214 are fixed and not variable from one dispensing cycle to another". There

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appears to be nothing in Matt that supports this statement, which furthermore is not required in the claims. For example, column 4, lines 47-68 support that Matt discloses variability within a dispensing cycle (see, for example, the phrases "constant measurement" and "continuously vary the programmed switching time" in the passage), which provides support for Matt disclosing variability within the dispensing cycle.

6. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Applicant for example, argues that Popp doesn't show the detection of the transition signals. However, Popp is relied on for disclosure of measurements of the edges of fluid. Applicant also argues that Matt doesn't show the detection of the edges of the fluid, but Matt is relied upon for disclosure of the importance of transition signals. And finally, Medler is relied upon for the connection between the two of these disclosures. The sum of the references as a whole suggests all of the limitations of claims 1-3 and 13-15.

Allowable Subject Matter

7. Claims 4-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: While the prior art of record (Popp and Matt) does disclose the limitations of claim 1, and also discloses providing a signal representing a presence of the substrate in proximity to the dispensing gun (See Matt, item 208), the prior art of record does not suggest in combination with the other limitations of claim 4 the steps of 1) sampling the transition signals and the feedback signals on a periodic basis, 2) storing sampled transition signals and sampled feedback signals, and 3) correlating the sampled feedback signals to the sampled transition signals to determine the delays.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George R. Koch III whose telephone number is (571)

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272-1230 (TDD only). If the applicant cannot make a direct TDD-to-TDD call, the applicant can communicate by calling the Federal Relay Service at 1-866-377-8642 and giving the operator the above TDD number. The examiner can normally be reached on M-Th 10-7.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



George R. Koch III
Patent Examiner
Art Unit 1734

GRK
9/18/2004



CHRIS FIORILLA
SUPERVISORY PATENT EXAMINER
Au 1734